

WHAT IS CLAIMED IS:

1 1.	An isolated nucleic acid encoding an estrogen-regulated GTP-
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- 2 binding protein gamma-12 subunit protein, wherein the protein comprises the amino acid
- 3 sequence of SEQ ID NO:1.
- 1 2. The nucleic acid of claim 1, wherein the nucleic acid is from a
- 2 mouse.
- 1 3. The nucleic acid of claim 1, wherein the nucleic acid comprises a
- 2 nucleotide sequence that is at least about 70% identical to SEQ ID NO:2 or 3.
- 1 4. The nucleic acid of claim 1, wherein the nucleic acid comprises the
- 2 nucleotide sequence of SEQ ID NO:2 or 3.
- 1 5. An expression cassette comprising the nucleic acid of claim 1.
- 1 6. An isolated eukaryotic cell comprising the expression cassette of
- 2 claim 5.
- 7. An isolated estrogen-regulated GTP-binding protein gamma-12
- 2 subunit protein, wherein the protein comprises the amino acid sequence of SEQ ID NO:1.
- 1 8. The protein of claim 7, wherein the protein is a mouse protein.
- 9. An antibody that selectively binds to the estrogen-regulated GTP-
- 2 binding protein gamma-12 subunit protein of claim 7, wherein the antibody does not bind
- 3 to the estrogen-regulated GTP-binding protein gamma-12 subunit protein having the
- 4 amino acid sequence of SEQ ID NO:4.
- 1 10. A method of modulating estrogen signaling in a mammalian cell,
- 2 the method comprising modulating the level of expression or activity of an estrogen-
- 3 regulated GTP-binding protein gamma-12 subunit protein.
- 1 The method of claim 10, wherein said level of expression of said
- 2 estrogen-regulated GTP-binding protein gamma-12 subunit protein is modulated by
- 3 introducing a polynucleotide into said cell, whereby the presence or expression of said
- 4 polynucleotide modulates said level of expression of said estrogen-regulated GTP-
- 5 binding protein gamma-12 subunit protein.

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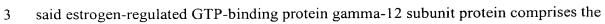
estrogen.

1	12. The method of claim 11, wherein said polynucleotide er	codes a
2	full-length estrogen-regulated GTP-binding protein gamma-12 subunit protein	, and
3	wherein expression of said polynucleotide increases said level of expression of	said
4	estrogen-regulated GTP-binding protein gamma-12 subunit protein.	
1	13. The method of claim 11, wherein said polynucleotide is	an
2		
3		
4		
1 2	said cell, whereby said level of said expression or activity of said estrogen-reg	
3	GTP-binding protein gamma-12 subunit is modulated.	
1	15. The method of claim 10, wherein the estrogen signaling	is
2	2 mediated by an estrogen receptor alpha.	
1	16. The method of claim 10, wherein the cell is present in a	mammal.
1	17. The method of claim 16, wherein the cell is a vascular se	nooth
2	muscle cell or a vascular endothelial cell.	
1	18. The method of claim 16, wherein said level of expression	n or
2	activity of said estrogen-regulated GTP-binding protein gamma-12 subunit pro	tein is
3	increased, whereby the development of atherosclerosis, osteoporosis, Alzheime	er's disease
4	or Parkinson's disease is inhibited in said mammal.	
1	19. A method of detecting the presence of estrogen signaling	g in a
2	mammalian cell, the method comprising detecting the expression of a nucleic a	cid
3	encoding an estrogen-regulated GTP-binding protein gamma-12 subunit protei	n.
1	20. The method of claim 19, wherein said nucleic acid is the	nucleic
2	acid of claim 1.	
1	21. The method of claim 19, wherein said presence of estrog	gen

signaling in said cell is used in order to determine the responsiveness of said cell to

1	The method of claim 19, wherein said presence of estrogen
2	signaling in said cell is used in order to determine the tissue-specific distribution of
3	estrogen signaling in a mammal.
1	23. The method of claim 19, wherein said expression of said nucleic
2	acid in said cell is detected by detecting the expression or activity of an estrogen-
3	regulated GTP-binding protein gamma-12 subunit protein.
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1	24. The method of claim 19, wherein said protein is the protein of
2	claim 7.
1	25. The method of claim 19, wherein said expression of said nucleic
2	acid in said cell is detected by detecting the level of estrogen-regulated GTP-binding
3	protein gamma-12 subunit mRNA in said cell.
1	26. The method of claim 19, wherein the estrogen signaling is
2	mediated by an estrogen receptor alpha.
1	27. A method of identifying a compound capable of acting as an
2	estrogen receptor agonist or antagonist, the method comprising:
3	(1) contacting a cell comprising an estrogen receptor with said compound;
4	and
5	(2) determining the functional effect of said compound on said cell,
6	wherein an increase in the level of estrogen-regulated GTP-binding protein gamma-12
7	subunit mRNA, protein or protein activity in said cell indicates that said compound is
8	capable of acting as an estrogen receptor agonist, and wherein a decrease in the level of
9	estrogen-regulated GTP-binding protein gamma-12 subunit mRNA, protein or protein
10	activity in said cell indicates that said compound is capable of acting as an estrogen
11	receptor antagonist.
1	28. The method of claim 27, wherein the estrogen receptor is an
2	estrogen receptor alpha.
_	estrogen receptor alpira.
1	29. The method of claim 27, wherein said estrogen-regulated GTP-
2	binding protein gamma-12 subunit mRNA has the sequence of SEQ ID NO:1, or wherein





4 amino acid sequence of SEQ ID No:2 or 3.